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10/751,730	01/06/2004	Masaya Kimura	826.1916	1509
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STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER SOL, ANTHONY M	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/751,730

Applicant(s)

KIMURA ET AL.

Examiner

Anthony Sol

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13,17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13,17 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

- Applicant's Amendment filed 9/21/2007 is acknowledged.
- The previous objection to the drawings is withdrawn.
- The previous objection to claim 1 is withdrawn.
- Claims 1, 13 and 20 have been amended.
- Claims 2, 12, 14-16, 18 and 19 have been canceled.
- Claims 1, 3-11, 13, 17, 20 are now pending.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "contents of distributing destination storage unit storing any of said plurality of second communications distribution units" beginning in line 19. It is unclear what is "distributing destination storage unit"? There is no mention of it in the specification. Is it a hardware device? If so, how can it store "any of said plurality of second communications distribution units," another device. Storage devices store information or data, not hardware units.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3-5, 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's Admitted Prior Art ("APA) in view of Pub. No. US 2001/0055285 A1 ("Tomoike").

Regarding claim 1,

The APA shows in fig. 43, a first network unit 101, which is connected to a mobile terminal 100a and has a plurality of input/output points 102 to and from service providing servers 110-112.

The APA further shows in fig. 43 a plurality of first communications distribution units 105 respectively connected to the plurality of input/output points 102.

The APA still further shows in fig. 43, a second network unit 106, connected to plurality of first communications distribution unit 105a.

The APA still further shows in fig. 43, a third network unit 122 connected to the plurality of service providing servers 110-112.

The APA still further shows in fig. 43, a plurality of second communications distribution units 121, which are connected between said second network unit 106 and said third network unit 122, for distributing a series of communications between the

mobile terminal 100a and a service providing server 110a to any of the plurality of service providing servers 110-112, characterized in that a first communications distribution unit 105a distributes a series of communications between said mobile terminal 100a and service providing servers 110-112 through said second network unit 106.

The APA still further discloses an identifier of a session as the series of communications between the mobile terminal and the service providing servers (

The APA discloses a user session (claimed identifier of a session; see applicant's specification, pg. 7, line 23).

The APA does not disclose that the series of communications is distributed to **any** of said plurality of second communications distribution units. The APA also does not disclose that each of said plurality of first communications distribution units comprises a same storage contents of distribution destination storage unit storing any of said plurality of second communications distribution units.

Tomoike discloses that based on the load data management table of the load data storage device 32 **one of** the proxy gateways 18-1 to 18-n (claimed second communications distribution units) which is connected to the mobile terminal 12 is selected (para. 63). Tomoike further discloses that a session is engaged between the selected gateway and the mobile terminal, which is connected to contents server 19 (para. 39 and 63). Tomoike still further discloses that if the load data sent from each of the proxy gateways 18-1 to 18-n indicates the measured load value, one of the proxy gateways 18-1 to 18-n which has the smallest load value is selected and when

one of the GMMS 17-1 to 17-m (claimed first communications distribution units) receives the address of the proxy gateway (claimed second communications distribution units) selected by the SCP 16 among the proxy gateways 18-1 to 18-n, the GMMS performs a process of connecting the selected proxy gateway and the mobile terminal 12 (para. 64-65).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as admitted prior art to include a service control point that selects one of the proxy gateways and to include a load data obtaining device and load data storage device as taught by Tomoike. One skilled in the art would have been motivated to make the combination so that the load of the gateways can always be equally distributed (Tomoike, para. 20).

Regarding claim 3,

The APA discloses that the plurality of service providing servers 110 form a plurality of groups each being configured by servers providing same services (see applicant's spec, pg. 2, lines 19-21).

The APA further discloses that the mobile terminal 100a specifies a representative address for each of the plurality of groups 110-112 to communicate with service providing servers (see applicant's spec, pg. 3, lines 16-22).

The APA further discloses that said second communications distribution unit 121a distributes the series of communications to any of the service providing

servers in a group 110a, 110b, 110c specified by the representative address.

Regarding claim 4,

The APA discloses that a grouped service providing server is assigned representative address information, and a client transmits a packet using the representative address information as a destination, and the packet is distributed to any service providing server in the group based on the balancing policy of the load balancer (see applicant's spec, pg. 3, lines 16-22).

Regarding claim 5,

The APA shows a user authentication device 104.

Regarding claim 7,

The APA discloses that a user session is defined for a TCP. The APA further discloses that the communications in a series of TCP connections performed to complete the process are called a user session under the TCP (see applicant's spec, pg. 6, lines 16-25).

Regarding claim 20,

The APA show in fig. 43 a network unit 102a, which is connected to the mobile terminal 100a and has a plurality of input/output points to and from the service providing servers 110-112.

The APA further shows in fig. 43 a plurality of first communications distribution units 105 respectively connected to the plurality of input/output points.

The APA still further shows in fig. 43 a plurality of second communications distribution units 121, connected between said plurality of first communications distribution units 105 and the plurality of service providing servers 110-112, for distributing a series of communications between the mobile terminal 100a and the service providing server 110a to any of the plurality of service providing servers 110-112.

The APA discloses communications between the mobile terminal 100a and the service providing server 110a are performed through any of the plurality of input/output points of the network unit from start to termination of the series of communications (see applicant's spec, pg. 4, lines 15-20, *when a mobile device, for example the mobile device 100a moves during the communications, the input/output point of the service providing server to the IP network 101 dynamically changes*).

The APA discloses a user session (claimed identifier of a session; see applicant's specification, pg. 7, line 23).

The APA does not disclose characterization in which any of said plurality of first communications distribution units distributes the series of communications to a same second communications distribution unit from among said plurality of second communications distribution units.

Tomoike discloses that based on the load management table, **one of** the proxy gateways 18-1 to 18-n (claimed second communications distribution units) which is

connected to the mobile terminal 12 is selected (para. 63). Therefore, if the selected gateway, for example 18-1, is continuously the least loaded gateway, then gateway 18-1 would be the same gateway that would be receiving communications from the mobile device.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to include a service control point that selects one of the proxy gateways as taught by Tomoike. One skilled in the art would have been motivated to make the combination so that the load of the gateways can always be equally distributed (Tomoike, para. 20).

5. Claims 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view Tomoike, and further in view of Pub. No. US 2005/0027506 A1 ("Kerr").

Regarding claim 6,

The APA does not show that the second communication distribution unit can distribute the series of communications to a server external to said mobile device communications system. The APA also does not show an accounting information generation unit generating accounting information about a service received by the mobile terminal from the service providing servers.

Tomoike shows in fig. 1, a content server 19 which is accessed through the Internet, which inherently is not limited to a mobile device communications network.

Kerr discloses treatment of packets 150 in the message flow 160 including accounting such that the routing device 140 creates an accounting record for the message flow 160 (para. 36).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to include the ability to access servers external to the mobile device communications system as taught by Tomoike and to include creating an accounting record as taught by Kerr. One skilled in the art would have been motivated to make the combination so that mobile subscriber has access to full array of contents available on the Internet and so that the user can be accurately charged for the use of content and network usage (Kerr, para. 46).

Regarding claim 17,

The APA shows in fig. 43 a mobile terminal 100a and a load balancer 105a, and service providing servers 110-112.

The APA further shows in fig. 43 that a source of the packet received by the load balancer 105a is the mobile terminal 100a.

The APA discloses retrieving mobile device identification information about a mobile terminal such as the source and destination of the packet, and determining whether or not a service provided by the service providing server of the destination address can be provided for a user of the mobile terminal (see applicant's spec, pg. 3, lines 4-15, *communications are performed between the mobile devices, for example, a*

*mobile phone and a service providing server... Since a server capable of providing a service requested by a client forms a group as described above. Note that since a server capable of providing a service request is determined, the source and destination of the packet is inherent).*

The APA does not disclose setting the addresses in an accounting record, incrementing a number of packets of an accounting record each time a packet is received from the load balancer until the series of communications terminate, retrieving a packet length from the received packet, and adding the packet length to the packet length of the accounting record, and setting again the source address of the accounting record into identification information about a user of the mobile terminal, and the destination address into information about the service providing server.

Kerr discloses treatment of packets 150 in the message flow 160 including accounting such that the routing device 140 creates an accounting record for the message flow 160 (para. 36). Kerr further discloses that the message flow may be identified responsive to factors including packet length (para. 25). Kerr still further discloses that because the routing device 140 is able to associate each packet 150 with a particular message flow 160 and to associate each message flow 160 with particular network-layer source and destination addresses, the routing device 140 is able to associate network usage with particular workstations (and therefore with particular users) or with particular services available on the network. This can be used for accounting purposes (para. 46).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to include the ability to access servers external to the mobile device communications system as taught by Tomoike and to include accounting record feature as taught by Kerr. One skilled in the art would have been motivated to make the combination so that the user can be accurately charged for the use of content and network usage (Kerr, para. 46).

6. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view Tomoike, and further in view of U.S. Patent No. 6195680 B1 ("Goldszmidt").

Regarding claim 8,

The APA discloses that a mobile device and a network access device under the PPP (point-to-point) protocol is a lower layer of protocol (see applicant's spec, pg. 76, lines 2-4). Note that although the above cited portion is in reference to fig. 9 of the applications drawings, the same relationship exists between the mobile device and network access device in fig. 43.

The APA and Tomoike do not explicitly disclose that the second communications distribution unit assigns an **identifier** to a user session as a series of communications in a layer higher than a layer corresponding to a session managed by said session management device.

Goldszmidt discloses that control server 1.1 could be a gateway through which client requests must pass and which includes a routing function to distribute client requests among servers in the cluster (col. 4, lines 55-58).

Goldszmidt further discloses that the control server assigns different **identifiers** to the streaming servers for delivering the multimedia data (col. 5, lines 38-42).

Goldszmidt still further discloses that streaming system could use HTTP (based on TCP/IP)(col. 16, lines 46-47). Note that the applicant acknowledges that HTTP is an application protocol in an upper layer of TCP/IP (see applicant's spec, pg. 76, lines 4-10).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to use an upper layer protocol such as HTTP and to assign identifiers to the streaming servers as taught by Goldszmidt. One skilled in the art would have been motivated to make the combination so that the identifiers can be used to group the streaming servers into two or more different sets (Goldszmidt, col. 5, lines 38-42).

Regarding claim 9,

The APA and Tomoiike do not explicitly disclose a plurality of user session types.

Goldszmidt discloses recording a relationship between the client 1.8 and the streaming servers using different session types as depicted in fig. 1b. Client agent 1.8 is initially assigned a primary streaming server 1.2 that is using an even-numbered port

1.92 (claimed first session type). The primary ID 1.94 and secondary ID 1.96 could be communicated to the client 1.8 and stored in the data structure 1.9 at the client. When the client 1.8 detects a failure in the stream or the primary streaming server, the client agent communicates again (claimed second session type), for example passing the primary ID 1.92 and/or the secondary ID 1.96 to the control server 1.1, requesting (based on the secondary ID 1.96) an alternate streaming server 1.3 that is using an odd-numbered port 1.93. The control server 1.1 then switches the client agent to an alternate streaming server 1.3 in the set 1.6 of streaming servers using odd-numbered ports 1.93. The selected secondary streaming server now becomes the primary streaming server for the client agent 1.8, and the set 1.5 that contains streaming servers using even-numbered ports becomes the set for the secondary server. The control server 1.1 preferably communicates the updated identifiers (1.94, 1.96) to the client 1.8 (Goldszmidt, col. 7, lines 10-44).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to use different session types as taught by Goldszmidt. One skilled in the art would have been motivated to make the combination to allow the client to dynamically switch back and forth between the two sets. (Goldszmidt, col. 5, lines 38-42).

Regarding claim 10,

The APA shows in fig. 43 a mobile terminal 100a transmitting a packet in a series of communications by specifying any of the plurality of service providing servers 110-112.

The APA further shows in fig. 43, a load balancer 105a, which received the packet.

The APA still further shows in fig. 43, a plurality of service providing servers for performing the same services as the service providing server specified by the mobile terminal.

The APA does not disclose distributing the packet to any of the plurality of packet gateway devices corresponding to an identifier for the series of communications.

Tomoike discloses that **one of** the proxy gateways 18-1 to 18-n, which is connected to the mobile terminal 12 is selected (para. 63).

Goldszmidt discloses that control server 1.1 could be a gateway through which client requests must pass and which includes a routing function to distribute client requests among servers in the cluster (col. 4, lines 55-58).

Goldszmidt further discloses that the control server assigns different **identifiers** to the streaming servers for delivering the multimedia data (col. 5, lines 38-42).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to use gateways of Tomoike and assign identifiers to the streaming servers as taught by Goldszmidt. One skilled in the art would have been motivated to make the combination so that the load of the gateways

can always be equally distributed (Tomoike, para. 20) and so that the identifiers can be used to group the streaming servers into two or more different sets (Goldszmidt, col. 5, lines 38-42).

Regarding claim 11,

The APA discloses that a user session is defined for a TCP. The APA further discloses that the communications in a series of TCP connections performed to complete the process are called a user session under the TCP (see applicant's spec, pg. 6, lines 16-25).

Goldszmidt further discloses that the control server assigns different **identifiers** to the streaming servers for delivering the multimedia data (col. 5, lines 38-42).

Goldszmidt still further discloses that streaming system could use HTTP (based on TCP/IP)(col. 16, lines 46-47). Note that the applicant acknowledges that HTTP is an application protocol in an upper layer of TCP/IP (see applicant's spec, pg. 76, lines 4-10).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as prior art to use an upper layer protocol such as HTTP and to assign identifiers to the streaming servers as taught by Goldszmidt. One skilled in the art would have been motivated to make the combination so that the identifiers can be used to group the streaming servers into two or more different sets (Goldszmidt, col. 5, lines 38-42).

7. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of U.S. Patent No. 5,371,852 ("Attanasio"), and further in view of Goldszmidt.

Regarding claim 13,

The APA shows in fig. 43, selecting any of a plurality of service providing servers 110-112 capable of providing a service requested by a mobile terminal 100a from among the plurality of service providing servers such that the loads of the service providing servers can be balanced. The APA further shows a load balancer 105a.

The APA does not disclose storing a destination address and a source address of a packet received from the load balancer using a unique source port number as a key and setting the unique source port number as a source port number of a packet header, and transmitting a packet to the service providing server with an address of the selected service providing server set as a destination address, and an address of the device set as a source address.

The APA also does not disclose an identifier for a user session as a series of communications in a layer higher than a layer corresponding to a session as a series of communications between the mobile terminal and the service providing server in a hierarchical structure of communications is used as the unique source port number.

Attanasio discloses a gateway that determines if a message is a port type, then if so, the location of the port number on the message is found. Attanasio further discloses routing the message to the proper computer node within the cluster by

altering information on the incoming message so that the message is addressed to the proper node within the cluster. Attanasio still further discloses altering the message so that the source address is the gateway address rather than the address of the source node (col. 5, lines 12-56).

Goldszmidt discloses that the control server assigns different **identifiers** to the streaming servers for delivering the multimedia data, where one set 1.5 of streaming servers 1.2 is delivering multimedia streams through even-numbered ports 1.92 and another set 1.6 of streaming servers 1.3 is delivering the multimedia streams through odd-numbered ports 1.93 (col. 5, lines 38-42).

Goldszmidt still further discloses that streaming system could use HTTP (based on TCP/IP)(col. 16, lines 46-47). Note that the applicant acknowledges that HTTP is an application protocol in an upper layer of TCP/IP (see applicant's spec, pg. 76, lines 4-10).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the common load balancing system as disclosed by the applicant as admitted prior art to use encapsulated cluster as taught by Attanasio and to use an upper layer protocol such as HTTP and to assign identifiers to the streaming servers as taught by Goldszmidt. One skilled in the art would have been motivated to make the combination so that the cluster appears as a single computer image to an external host (Attanasio, col. 5, lines 1-11) and so that the identifiers can be used to group the streaming servers into two or more different sets (Goldszmidt, col. 5, lines 38-42)..

***Response to Arguments***

8. Applicant's arguments filed 9/21/2007 have been fully considered but they are not persuasive.

- The Applicant argues on page 12 of the Remarks that Goldszmidt and the art recited in combination does not teach "distributing the packet to any of the plurality of packet gateway devices corresponding to an identifier of the series of communications" as recited by claim 10.

- The Examiner respectfully disagrees. Tomoike discloses that a **session** is engaged between the selected gateway and the mobile terminal, which is connected to contents server 19 (para. 39 and 63). Tomoike still further discloses that if the load data sent from each of the proxy gateways 18-1 to 18-n indicates the measured load value, **one of the proxy gateways** 18-1 to 18-n which has the smallest load value **is selected** and when one of the GMMS 17-1 to 17-m (claimed first communications distribution units) receives the address of the proxy gateway (claimed second communications distribution units) selected by the SCP 16 among the proxy gateways 18-1 to 18-n, the GMMS performs a process of connecting the selected proxy gateway and the mobile terminal 12 (para. 64-65).

- The Applicant argues on page 13 of the Remarks that Goldszmidt and the art recited in combination does not teach a technique in which different identifiers are

assigned to streaming servers, an identifier corresponding to a session as a series of communications as recited by claim 13.

- The Examiner respectfully disagrees. Goldszmidt discloses that the control server assigns different **identifiers** to the streaming servers for delivering the multimedia data (col. 5, lines 38-42) and the APA discloses a **user session** under TCP (an upper layer protocol) (see applicant's specification, pg. 7, line 23).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7493. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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12/7/07  
WING CHAN  
SUPERVISORY PATENT EXAMINER

AMS

12/7/2007